RADIO COMMUNICATION SYSTEM EMPLOYING SPECTRAL REUSE TRANSCEIVERS

ABSTRACT

A spectral reuse transceiver-based communication system conducts communications between a master site and a plurality of remote sites using a selected portion of a communication bandwidth containing a plurality of sub-bandwidth channels. Each remote site transceiver monitors the communication bandwidth for activity on the sub-bandwidth channels, and informs a master site transceiver which sub-bandwidth communication channels are absent communication activity and therefore constitute clear channels. The master site transceiver compiles an aggregate list of clear channels from all the remote sites and then broadcasts the aggregate list to the remote sites. The master site and a remote site then conduct communications therebetween by frequency-hopping and/or orthogonal frequency multiplexing among the clear channels using an a priori known PN sequence.